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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,370	11/14/2003	Sheri L. McGuire	3788	1852
23474 7590 01/29/2008 CLEMENTS BERNARD MILLER 1901 ROXBOROUGH ROAD SUITE 300 CHARLOTTE, NC 28211				
EXAMINER				
STEELE, JENNIFER A				
ART UNIT		PAPER NUMBER		
1794				
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01/29/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/714,370

Applicant(s)

MCGUIRE ET AL.

Examiner

JENNIFER STEELE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9, 15-17, 33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 15-17, 33 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The arguments in the Appeal Brief submitted 12/17/2007 were considered persuasive and new grounds of rejection is being presented in this Non-Final Office Action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
1. Claim 1, 3, 4, 6, 7, 9, 15-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Mater (US 2004/0198125) and in view of Wu et al. (US 3,713,879). Mater teaches a nonwoven highloft flame barrier for use in mattresses and upholstered furniture that comprises a blend of fibers that are inherently fire resistant and essentially nonshrinking to direct flame (ABST). Mater teaches a blend of inherently fire resistant fibers, inherently flame retardant fibers and low melt binder fibers [0001] as well as blends with synthetic and natural fibers. Mater teaches a total of (6) categories of fibers

in the blends that include the inherently fire resistant fibers, inherently flame retardant fibers, low melt binders, natural fibers, non-flame retardant fibers such as synthetic fibers and halogenated binder resin [0074-0085]. Mater teaches a nonwoven fabric wherein the fibers are blended and teaches the following blends: Category 1 are Inherent fire resistant fibers including melamines, meta-aramids, viscose rayons at 10-85%; Category 2 are Inherent flame retardant fibers that are halogenated compounds such as modacrylics at 10-85%; Category 3 are low melt binders used at 0-30%; Category 4 are natural fibers at 0-40%; Category 5 are synthetic non-flame retardant fibers at 0-40% and Category 6 are halogenated binder resins at 0-40%. Mater teaches that the inherently fire resistant fibers include viscose rayon based fibers. Mater teaches fibers blends in examples I where one layer of the mattress quilt panel has 60% modacrylic with 20% melamine and 20% low melt binder [0128]. This blend is in the range of the claimed blend of 6-25% low melt binder and 25-75% synthetic and/or natural fiber not coated with an FR material wherein any inherent FR fiber is FR rayon. Mater teaches conventional fire retarding chemicals include halogen-based, phosphorus-based and/or antimony-based chemicals and teaches FR polyester, FR treated cotton and other FR treated fabrics are known in the art [0002]. Mater also teaches these FR treated fabrics are unsuitable for passing the more stringent open flame tests [0002]. FR treated fabric are equated with FR coated fibers and fabrics. Mater differs from the current application and does not teach an FR coated fiber.

Wu teaches a flame retardant fibrous material (Title). Wu teaches a wide variety of fibrous material can be treated to impart flame retardance and includes synthetic

fibers such as polyester, polyamide or acrylic fibers and copolymers containing at least about 85% combined acrylonitrile filaments or fibers, cotton or rayon. Wu teaches the fibrous material can be treated in the form of woven or knitted or nonwoven fabrics and the treatment can be applied to yarns, thread or it may be applied to fibers or filaments in the form of loose or bulk masses or in the form of one or less compacted webbing, matting or batting. Therefore Wu teaches FR coated fibers.

It would have been obvious to one of ordinary skill in the art to substitute an FR coated fiber for an inherent FR fiber of Mater motivated to produce a nonwoven material with flame retardant properties. The references present finding that one of ordinary skill in the art could have pursued the known potential options with a reasonable expectation of success.

As to claim 2, Mater differs from the current application and does not teach an FR material for coating a fiber. Wu teaches a FR material for coating a fiber that can be produced from a phosphorus compound (ABST). It would have been obvious to one of ordinary skill in the art to employ a phosphorus based compound as a FR fiber coating material as taught by Wu.

As to claim 3, Mater teaches synthetic fibers include polyester, nylon, polyolefins, acrylics [0083].

As to claim 4 and 5, Mater teaches inherent FR rayon [0070] and FR polyester [0002].

As to claim 6, Mater teaches uncoated natural fibers including cotton, wool, silk, mohair, cashmere [0080].

As to claim 7, Mater teaches a low melt bicomponent fiber [0074].

As to claim 9, Mater teaches examples wherein the uncoated synthetic fiber is 0-40% which is in the range of 20-70%.

As to claim 15 - 17, Mater teaches a low melt binder that can be a bicomponent fiber [0075] and Mater teaches a blend of 15% bicomponent binder and 30% polyester (100% PET) with 55% melamine in example I [0124]. Mater differs and teaches the flame retardant fiber is an inherent FR fiber and not a coated FR fiber. Wu teaches FR coated fibers can be of rayon, viscose rayon or cellulose rayon (col. 12, lines 12-14 and 39). It would have been obvious to one of ordinary skill in the art to employ a FR coated fiber in the blend of Mater motivated to produce a flame retardant fabric. It further would have been obvious to optimize the blend compositions motivated by Mater's teaching of blends of FR fibers with synthetic and/or natural fibers to obtain desired flame retardant properties as well as softness and weight.

As to claims 33 and 34, Mater teaches FR materials include phosphorus-based chemicals however Mater differs from the current application and does not teach the phosphorus is a red phosphorus and does not teach the phosphorous compounds are esters of phosphorous. Wu teaches a process of reacting an elemental phosphorous with an alcohol or mercaptan and an epoxide or episulfide (col. 1, lines 21-25). Wu teaches elemental phosphorous can be the red type (col. 1, lines 26-28). Wu teaches the epoxide can also be an ester group (col. 2, lines 43-46) and teaches the esterification of phosphorus based compound in example 21 (col. 11, lines 55-57). It

would have been obvious to employ a phosphorus compound of red phosphorus and that are esters of phosphorous motivated by Wu to produce a flame retardant fabric.

Double Patenting

2. Claims 1-7 and 9-17 and 33-34 remain provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4,6-24 of copending Application No. 10/392999. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are drawn to overlapping inventions. The amounts of each component would have been easily determined. New claims 33 and 34 are similarly rejected. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

3. Applicant's arguments, filed 12/17/2007 in Appeal Brief, with respect to the rejection(s) of claim(s) 1 under 35 USC 103(a) in view of Neogi have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mater in view of Wu.

4. Applicant's arguments, filed 12/17/2007 in Appeal Brief, with respect to the rejection(s) of claim(s) 1, 3, 4, 6, 7, 9, 15-17 under 35 USC 103(a) of Mater in view of Neogi have been fully considered and are persuasive. Therefore, the rejection has

been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mater in view of Wu.

5. Applicant's arguments, filed 12/17/2007 in Appeal Brief, with respect to the rejection(s) of claim(s) 2 under 35 USC 103(a) of Mater in view of Neogi and Cook have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mater in view of Wu.

6. Applicant's arguments, filed 12/17/2007 in Appeal Brief, with respect to the rejection(s) of claim(s) 33 and 34 under 35 USC 103(a) of Mater in view of Neogi and Encyclopedia of Polymer Science and Technology have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mater in view of Wu.

7. Applicant's arguments that Neogi does not teach a synthetic fiber coated with FR material are persuasive and the 35 USC 103(a) rejections with respect to Neogi in view of O'Brian and Mater in view of Neogi have been withdrawn.

Applicant's argues that Mater teaches a construction of mattresses in the examples have 55% melamine, 30% polyester and 15% binder fiber and these nonwovens are not according to the invention of Mater since they do not include a content of Category 2 halogenated fiber and claim 1 is limited to inherent FR fibers that are either polyester or rayon or mixtures thereof, not melamine. Examiner agrees that Mater is teaching a synergistic blend of category 1 and 2 inherent FR fibers and this 1st layer under the ticking is not of the synergistic blend. It is the 2nd layer under the ticking that comprises

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the synergistic blend category 1 and category 2 inherent FR fibers. Nevertheless, Mater does teach a fabric blend of inherent FR fiber, PET and binder fiber and is considered a finding in the prior art it would of been obvious to employ this type of blend. This Office Action presents the rejection that it would of been obvious to replace the melamine fibers of Mater with FR coated fibers of Wu to produce a fabric per claim 1 and dependent claims 15-17. In this Office Action Mater is relied upon for teaching inherent FR fibers and blends of inherent FR fibers with synthetic and natural fibers and a low melt binder. Mater provides blend ranges for the inherent FR fibers and the synthetic and natural fibers as well as the low melt binders. Wu is relied up for teaching a FR coated synthetic fiber. As the new grounds of rejection are presented in this Office Action Wu and Mater present findings that one of ordinary skill in the art could have pursued the known potential options with a reasonable expectation of success.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER STEELE whose telephone number is (571)272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./
Examiner, Art Unit 1794

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

1/22/2008